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EPRI-INL report outlines nuclear energy strategy

News release from Electric Power Research Institute (EPRI)

PALO ALTO, Calif., Feb. 17, 2009 -- A new report co-authored by the Electric Power Research Institute and the Idaho National Laboratory details how nuclear energy research, development, demonstration and deployment can help reduce U.S. carbon emissions and bolster energy security.

The report, A Strategy for Nuclear Energy Research and Development, outlines the research necessary to create options for the deployment of nuclear energy in the decades ahead. The report also examines nuclear energy's relevance to nonproliferation and the need for the United States to maintain international leadership in developing nuclear energy—issues that must be addressed for nuclear energy to have a prominent role in meeting the nation's future energy needs. Because of the scale, cost, and time horizons involved, sustaining and increasing nuclear energy's share will require a coordinated research effort—combining the efforts of industry and government, supported by innovation from the research community.

The study was issued as the United States faces unprecedented challenges in climate change and energy security. President Obama has called for a reduction of CO2 emissions to 1990 levels by 2020, with a further 80 percent reduction by 2050. Meeting those aggressive goals while increasing overall energy supply will require contributions from all non- and low- emitting generating technologies.

The Next Generation Nuclear Plant, a partnership between government and industry, could advance several of the goals in the EPRI/INL report.

The strategic plan defines six goals to expand the safe and economical use of nuclear energy:

- Maintain today's nuclear fleet of light water reactors
- Significantly expand the fleet with advanced light water reactors
- Develop non-electric applications for high-temperature reactors
- · Assure safe, long-term used fuel management
- · Assure long-term nuclear sustainability
- Strengthen United States leadership internationally.

"The report recommends that R&D to support these goals be focused in three technical areas: light water reactors and advanced light water reactors, high-temperature reactors, and fast reactors and advanced fuel cycles," said EPRI's Chris Larsen, vice president of the nuclear sector. "This research blend will enable the country to capitalize on numerous safety and technology advances for existing light water reactors, while developing the next generation of reactors so nuclear can service a variety of process heat applications and support nuclear fuel recycling. In essence, it establishes a set of options for deployment of non-emitting nuclear energy through this century."

Total funding needs from government and industry for the proposed research agenda covering the initial 2010-2015 period are estimated at \$3.5 billion.

About EPRI:

The Electric Power Research Institute, Inc. (EPRI, www.epri.com) conducts research and development relating to the generation, delivery and use

of electricity for the benefit of the public. An independent, nonprofit organization, EPRI brings together its scientists and engineers as well as experts from academia and industry to help address challenges in electricity, including reliability, efficiency, health, safety and the environment. EPRI's members represent more than 90 percent of the electricity generated and delivered in the United States, and international participation extends to 40 countries. EPRI's principal offices and laboratories are located in Palo Alto, Calif.; Charlotte, N.C.; Knoxville, Tenn.; and Lenox, Mass.

Read the 16-page <u>EPRI-INL report</u>.

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